

The opinion in support of the decision being entered
today was not written for publication and is
not binding precedent of the Board

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NOAH BAREKET,
CHRISTIAN G. DESPLAT
and LANCE A. GLASSER

Appeal No. 2001-0006
Application 08/993,107

ON BRIEF

Before THOMAS, BARRETT and RUGGIERO, Administrative Patent Judges.
THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's
final rejection of claims 1 through 26. Representative claim 1
is reproduced below:

1. A method for identifying a defect in a reticle
containing features that scatter light, which features together
define a pattern to be transferred a substrate surface, the
method comprising:

Appeal No. 2001-0006
Application 08/993,107

providing a baseline image of said reticle which baseline image was created while the reticle was qualified as being of acceptable quality;

generating a current image of the reticle; and

comparing the baseline and current images wherein the differences between these images identify defects that may have arisen in the time between when the baseline image was created and when the current image is generated.

The following references are relied on by the examiner:

Micka	3,909,602	Sep. 30, 1975
Stonestrom et al.		
(Stonestrom)	4,898,471	Feb. 6, 1990
Noguchi et al. (Noguchi)	5,098,191	Mar. 24, 1992

Claims 1-26 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Micka in view of Noguchi, further in view of Stonestrom.

Rather than repeat the positions of the appellants and the examiner, reference is made to the brief and reply brief for appellants' positions and to the final rejection and answer for the examiner's positions.

OPINION

We reverse.

The examiner relies upon the statement of the rejection of the claims on appeal at pages 2-4 of the final rejection. There, the examiner merely makes general references to each of the three

references relied upon, while making a specific reference only to certain locations of column 2 and 3 of Micka.

The nature of the disclosed invention is the method of inspecting a reticle for defects that occur in use over time by first storing a baseline image of the reticle and then subsequently generating a current, later in time image of the reticle and comparing it to the original or baseline image.¹ This is the essence of what is set forth in independent claims 1, 7 and 23 on appeal.

The examiner's statement of the rejection at pages 2-4 of the final rejection does not appear to come to grips with the essence of this issue until the examiner's remarks at page 4 which are in response to arguments presented by appellants before the final rejection. We reproduce these remarks at page 4 of the final rejection here:

The remarks argue that the instant invention compares two objects at different times to identify defects. However, the earlier image is when the object is known to be acceptable, and is thus exactly the type of acceptable object that the references teach should be used as the baseline object. While it is correct that the references do not explicitly state that the acceptable baseline can be an earlier image if [sic, of] the same object taken when it is known to be

¹ The examiner has provided us no evidence that the measure and test arts generally were aware of this approach.

acceptable, the references do not teach that it must be, or should be, a different object; the references teach only that the object should be known to be acceptable. When testing for defects which may have arisen during use, using a baseline of the same object when it is known to be good is clearly an obvious choice for the baseline, since the object itself, when it is known to be acceptable, is known to be an acceptable object and thus an appropriate baseline generating object.

On the one hand, while the examiner asserts here that the references do not explicitly state that the acceptable baseline can be an earlier image of the same object taken when it was known to be acceptable, the examiner takes the view at pages 4-5 of the answer that Micka does explicitly state that the test signal may be produced by using an object itself at a time when it was known to be acceptable. The examiner relies upon the statement in Micka at column 3, lines 53-56 as a basis for this conclusion. This portion states "[o]ne test signal generator can be produced by recording the signals from the photo-detector 14 when the test chip 10 is an acceptable master chip."

The examiner fails to adequately develop this teaching from this reference in the context of the applied prior art as a whole. The examiner has not detailed for our consideration all the teachings and suggestions of Noguchi and Stonestrom and set forth a persuasive rationale why this teaching of suggestion

would have lead the artisan to the subject matter of at least independent claims 1, 7 and 23 on appeal.

It is also noted that this quoted portion of Micka is not further developed in any manner in any subsequent or previous portion of the written description in Micka itself. The context of applying the apparatus of the Figure 3 embodiment at column 6, line 30 to a mask rather than to a comparison of master chips and test chips per se is noted, yet the teaching there is to compare a mask 140 in the Figure 3 embodiment in place of the master chip where the comparison operation obviously would compare mask 140 to the test chip 10 itself. The artisan is placed in the position of analyzing or translating this teaching to a pure comparative masking or reticle environment such as that of Noguchi which the examiner has not done either. Because Micka does not further develop his teaching at the bottom of column 3, there appears to be no appreciation in Micka of the overall context of the subject matter of the claims on appeal or of identifying defects that may occur over time of a given object under test referenced to a point in time when the object itself was of acceptable quality. The examiner's rationale has not made any reference to this kind of thinking (best expressed at

specification page 2 of appellants' assessment of the admitted prior art).

We are therefore left to conclude that the level, the degree or the quality of evidence of suggestibility from the perspective of the artisan falls short of what 35 U.S.C. § 103 requires to have rendered obvious the subject matter of the present claims on appeal. There are simply too many loose ends in the record for us to agree with the examiner's position. There are essentially too many inferences to be derived by the artisan that remain unexplained by the examiner's reasoning and the art applied. Even if we agree with the examiner's views as to the suggestibility at the bottom of column 3 in Micka, it appears to be unappreciated by Micka himself since it is undeveloped in his own patent. The artisan is therefore left with the whole burden to derive the meaningfulness of the statement at column 3, lines 53-56 of Micka and the meaningfulness of it as it relates to the other art relied upon by the examiner. There is simply too much speculation that we see the artisan would have to entertain for us to agree with the examiner's view of the obviousness of the subject matter of the claims on appeal. We therefore cannot determine independently of the examiner's views that the subject matter of the present claims on appeal would have been obvious to

the artisan within 35 U.S.C. § 103 based on the applied prior art.

As a final matter, independent claim 17 relates to the generation of a baseline image and, specifically, the feature of selecting among a plurality of algorithms the particular algorithm to apply to the image data derived from the reticle itself. The examiner attempts to address this feature by merely asserting in the middle of page 3 of the final rejection that it would have been obvious for the artisan to have chosen appropriate signal processing algorithms for the particular object to be inspected. The examiner further indicated in the paragraph bridging pages 3 and 4 of the final rejection that it would have been trivially obvious to have chosen appropriate imaging algorithms and clearly obvious to have chosen the best among a plurality. The examiner has provided no evidence before us that such algorithms exist in any of the applied prior art. We do note that certain teachings and suggestions exist beginning at column 10 of Noguchi and column 7 of Micka of known algorithms pertaining only to the compare operation or function. We agree with the appellants' assertion at the bottom of page 17 of the principal brief on appeal that the references do not contain any mention of choosing an appropriate imaging algorithm before the

Appeal No. 2001-0006
Application 08/993,107

storing of the image itself. Therefore, since the examiner has provided us no evidence of this feature, we must reverse the rejection of independent claim 17.

In view of the foregoing, we have reversed the rejection of each of the independent claims on appeal, claims 1, 7, 17 and 23. As such, we also reverse the rejection of their respective dependent claims. Therefore, the decision of the examiner is reversed.

REVERSED

James D. Thomas)	
Administrative Patent Judge)	
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Lee E. Barrett)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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Appeal No. 2001-0006
Application 08/993,107

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